Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
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Amendment of the Commission's Rules to Establish part 27, the Wireless Communications Service ("WCS")	)	GN Docket No. 96-228

To: The Commission

COMMENTS OF THE ASSOCIATION OF AMERICAN RAILROADS

The Association of American Railroads ("AAR"), by its undersigned counsel, hereby files its Comments in response to the Notice of Proposed Rulemaking, GN Docket No. 96-228, released in the above-captioned proceeding on November 12, 1996.

The purpose of this proceeding is to elicit comments on the Commission's proposed establishment of a new Wireless Communications Service ("WCS") in the 2305-2320 and 2345-2360 MHz bands, and to award one or more WCS licensees by competitive bidding. The Commission's action was undertaken pursuant to the Omnibus Consolidated Appropriations Act, 1997 ("Appropriations Act"),[1/] whereby Congress required the Commission to reallocate the frequencies at 2305-2320 and 2345-2360 MHz to wireless services and to assign the use of such frequencies by

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1/ See Omnibus Consolidated Appropriations Act, 1997, P.L. 104-208, 110 Stat. 3009 (1996).

competitive bidding pursuant to Section 309(j) of the Communications Act of 1934 ("Communications Act").[2/]

Summarized briefly, it is AAR's position that a portion of this spectrum should be set aside for uses other than subscriber-based communication services, including uses for meeting public safety needs.

The railroad industry in North America deploys and depends upon a sophisticated and comprehensive wireless communications network consisting of interconnected fixed and mobile communications facilities. The railroad industry uses private fixed microwave systems operating on frequencies in the 2, 6 and 12 GHz bands to meet safety and reliability requirements in day-to-day railroad operations. These microwave systems carry information regarding train signals and remote switching of tracks for the proper and safe routing and movement of trains. They also relay critical voice communications between locomotive crews and centralized control centers, as well as vital safety-related data from trackside defect detectors located throughout the rail network.

In addition, the railroads operate extensive mobile communications facilities using 91 channels in the VHF band and several channels in the 450-470 MHz band.[3/] The railroad industry currently operates approximately 16,000 mobile radio base stations and hundreds of thousands of various types of mobile units, including

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[2/] See 47 U.S.C. 309(j).

[3/] 47 C.F.R. Section 90.91.

locomotive radios, hand-held portables, wireless "end-of-train" units and other specialized mobile radio devices.

These fixed and mobile wireless networks operated by the railroads are not used to provide communications services to subscribers; instead, their purpose is to support the safe and reliable operation of the Nation's freight and passenger rail systems. Over the years, the railroad industry's use of wireless communications technology has increased dramatically, and will continue to do so in the future. A good example of the many new uses of wireless technology in the railroad industry may be found in the various pilot programs currently under way involving use of the Global Positioning System (GPS) and mobile radio links for train control systems.[4/]

Pursuant to Section 309 (j) of the Communications Act, the Commission may employ auctions for assigning spectrum only if the frequencies will be used for the provision of subscriber-based communications services. In Notice in this proceeding, the Commission "concluded" at the very outset that "the principal use of the WCS will involve, or is reasonably likely to involve, the transmission or reception of communications signals to subscribers for compensation."[5/] AAR respectfully submits that this conclusion is unsupported in the record. The Commission's a priori "conclusion" that subscriber-based services will be the principal use of the WCS spectrum will become, in essence, a self-fulfilling prophecy whose practical

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[4/] See, Summary of Proceedings, "The Global Positioning System (GPS) and Its Applications to Railroad Operations," Technical Symposium of the Federal Railroad Administration, November 14-15, 1996.

[5/] Notice at para. 14.

consequence will be denial of access to these frequencies by the railroad industry and other private users.

As AAR stated previously in its Comments and Reply Comments in ET Docket No. 94-32, spectrum auctions are not necessarily an appropriate allocation or licensing mechanism for all applications of wireless technology.[6/] In that proceeding, AAR urged the Commission to adopt the proposal of the Coalition of Private Users of Emerging Multimedia Technologies ("COPE"), of which AAR is a member, to allocate a portion of the spectrum for private use.

By "anticipating"[7/] that the most likely uses of the WCS spectrum will be "to provide a mix and mobile services similar to other services currently operating on a subscription basis,"[8/] the Commission will effectively foreclose access to these frequencies by the railroad industry. There are two reasons for this. First, commercial providers inevitably will outbid private users in an auction for spectrum because of the ability of the commercial provider directly to convert the spectrum into subscriber revenues. This ability does not exist for private users, such as the railroads, which use frequencies in support of safety-related operational missions whose value to the public is not directly convertible into subscriber revenues for communications service. Thus, in an auction for these frequencies, the commercial provider inevitably will outbid the private user.

6/ Association of American Railroads, Comments in ET Docket No. 94-32, December 19, 1994; Reply Comments in ET Docket No. 94-32, January 3, 1995.

7/ Notice at para. 14.

8/ Id.

Second, it is highly unlikely that commercial service providers operating in this spectrum could meet the operational needs of the railroad industry. The railroads operate nationwide in the most densely populated urban areas, as well as in the most remote rural and wilderness areas where no commercial wireless service currently exists or is likely to exist any time soon.[9/] Because standard railroad practice involves the routine sharing of equipment and rights-of-way between and among railroad companies, the wireless communication systems used for train operations -- issuing track warrants for train movements, transmission of messages from "talking" defect detectors, operation of end-of-train telemetry devices, etc. -- require a nationwide uniform system capable of operating in urban as well as rural areas. As a result, all railroad wireless communications must be interoperable and available on a nationwide basis. However, no single commercial provider has the capability -- or the incentive -- of providing economical service in all operating areas served by the Nation's railroads.

Even assuming that a multiplicity of commercial providers could form a single interoperable commercial rail communications network, there would remain significant problems with operational quality and speed of repair during outages. For example, typical subscriber-based commercial carrier systems are designed for peak loading levels that are substantially lower than the total number of possible users served. As a result, during major disasters such as tornados, earthquakes, hurricanes and floods,

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9/ This is not to say that the railroad industry does not use commercial mobile radio service ("CMRS"); indeed, it does. The major railroads make extensive use of cellular, SMR and other commercial services in support of various localized business operations. For the reasons described herein, however, these services cannot be used for coordinating train movements and controlling train operations.

commercial systems become overloaded, resulting in a total disruption of service. Such results do not occur with private systems that are engineered for higher peak capacities. Furthermore, commercial carriers' outage repair times typically do not satisfy the railroads' operational and safety needs. Users of commercial applications typically might wait four to twelve hours for repairs to be completed -- "down times" which would have significant negative effects on safety and reliability for the railroad industry.

Consistent with the instruction in the Appropriations Act to take into account the needs of public safety radio services in making the WCS spectrum available through competitive bidding, the Commission requested comment on how best to effectuate the Congressional intent regarding public safety needs relating to this spectrum. The railroad industry has a vital need for wireless communications capability to meet public safety requirements in the operation of the Nation's freight and passenger rail transportation system. This need for access to radio frequencies has been underscored by the Department of Transportation,[10/] the Federal Railroad Administration,[11/] and the National Transportation Safety Board.[12/] The FCC has itself acknowledged that railroads require reliable radio communications for safety-

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10/ Comments of U.S. Department of Transportation in WT Docket No. 96-86, filed October 21, 1996.

11/ Letter from Federal Railroad Administration to FCC Chairman, December 12, 1995 (ex parte filing in PR Docket No. 92-235).

12/ Letter from National Transportation Safety Board to FCC Chairman, December 13, 1995 (ex parte filing in PR Docket No. 92-235).

related purposes, for example, "in either avoiding the occurrence of hazards or responding to emergency circumstances."[13/] For the reasons described above, these needs can best be met, in AAR's opinion, by reserving a portion of the band for allocation in the traditional manner, similar to that employed by the Commission in Part 101 and Part 90 of the rules, for use on a coordinated, shared basis by and among entities which have safety-related operational missions requiring communications support.

In conclusion, AAR urges the Commission to recognize that auctions are not the most appropriate means of allocating spectrum among all types of radio services. Private users, having no potential subscriber base with which to convert spectrum to revenue, would not be able to compete with commercial users in an auction. Furthermore, private users cannot depend upon commercial providers -- either fixed or mobile -- for essential, safety-related communications in remote locations. Accordingly, AAR urges the Commission to set aside a portion of this spectrum for private users such as the railroads. As was demonstrated in the COPE petition, there is a significant need for additional spectrum among private radio users, and it is clear that commercial carriers have neither the ability nor the incentive to provide the types of services used by the railroad industry and other public service and public safety entities. Accordingly, the Commission should allocate suitable spectrum within the WCS band for private operational purposes on the same coordinated basis employed

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13/ Notice of Proposed Rulemaking in WT Docket No. 96-86, at para. 25.

in the existing frequency bands governed by Part 90 and Part 101 of the Commission's rules.

Respectfully submitted,

ASSOCIATION OF AMERICAN RAILROADS

By: 

Thomas J. Keller
VERNER, LIIPFERT, BERNHARD,
MCPHERSON & HAND, CHARTERED
901 15th Street, N.W.
Suite 700
Washington, D.C. 20005
(202) 371-6060

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